

MPR 1840.2

REVISION D

EFFECTIVE DATE: May 8, 2006

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MARSHALL PROCEDURAL REQUIREMENTS

AS01

MSFC HAZARD COMMUNICATION PROGRAM

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		12/6/99	
Revision	A	9/7/00	Added MWI 5113.1 to applicable documents and paragraph 2.2.4; added "Ensuring current revisions of applicable MSDS are readily accessible in each work area during each work shift to user employees" to paragraph 2.2.2 and deleted previous text; added "...including those exceeding the manufacturer's shelf-life" to paragraph 2.2.6; added sections 2.2.7 through 2.2.10; and added "current revisions of" to paragraph 3.1.
Revision	B	8/26/02	Deleted P.3.b; corrected document number in P.4.b; corrected document title to P.4.c added MWI 8550.5, "Hazardous Materials Management" and MWI 8715.4, "Personal Protective Equipment" to P.4; added definition for Centerwide data base in 1.1; changed department name to Integrated Customer Support in 2.1; added the MSDS data base in 2.1.2; deleted maintaining training records in 2.1.3; added "in accordance with MWI 8550.5, "Hazardous Materials Management" to 2.2.1; added "and that it is properly maintained in accordance with MWI 8715.4, "Personal Protective Equipment" to 2.2.8; added "in accordance with MWI 8715.4, "Personal Protective Equipment" to 2.2.9; defined OMEHS in 2.2.4; added "in accordance with MWI 8550.5" in 3.2; added 3.3.1 "by anyone receiving/purchasing new chemicals"; added in accordance with 29 CFR 1910.1200" to 3.4.1; combined 3.5.1 and 3.5.2; deleted 3.5.3; "changed to read "The following records will be maintained/dispositioned by the user in accordance with NPG 1441.1;" added "Training records will be maintained and dispositioned in accordance with NPG 1441.1 by OMEHS for classes they provide. Line management or other entities will be responsible for maintenance and disposition of records associated with training they provide," and deleted MSFC Form 55 in 4.0; added to 4.0, "An electronic data base and a hardcopy data base will be maintained by EED support contractor and OMEHS, respectively for all current MSDS's in use at MSFC. The electronic data base will either have the MSDS information stored on a server, or will provide a pointer to the manufacturer's information (e.g., copier toner cartridges). The hardcopy data base will be kept in Bldg 4249 and will consist of current MSDS's at MSFC. When updated MSDS information is received, existing MSDS information in both the electronic and hardcopy databases will be replaced. All superceded MSDS information will be placed in historical files (electronic and hardcopy)."
Revision	C	10/28/2004	P.4.a, changed Initiator to Requisitioners; P.4, added MWI 8550.1, "Waste Management" and MWI 8540.2, "Affirmative Procurement Program for Environmentally Preferable Products"; 4.1.1 changed title of form to "MSFC Chemical Inventory Addition"; 2.2.4, added MWI 8550.5, "Hazardous Materials Management," Changed 2.4.2 to "Maintaining the electronic MSDS database and forwarding a copy of any new MSDS to Occupational Medicine and Environmental Health Services (OMEHS) for inclusion in the Centerwide database."
Revision	D	5/8/2006	Combined responsibilities of OMEHS and EEMO to reflect current organization structure. Updated AD to AS; changed P3 to read

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			<p>Occupational Safety and Health Standards, Toxic and Hazardous Substances, Hazard Communication as revised, 29 CFR 1910.1200 and Safety and Health Regulations for Construction, Occupational Health and Environmental Controls, Hazard Communication; added Appendix A; changed 2.2.1 Follow all procedures as stated in MWI 8550.5, "Hazardous Materials Management" for chemical management and purchases. Chemical containers from the manufacturer shall display a barcode, which is applied when the chemical is received at MSFC Central Receiving. If an original container is found without a barcode, the owner of the chemical shall call the environmental contractor at 544-6007 or 544-4772 to have the container barcoded and inventoried. Changed 2.3 to read "<u>Director, Safety and Mission Assurance Directorate</u>, shall provide safety guidance to employees with regards to the fire hazards associated with flammable materials and substances, pressure hazards associated with compressed gases and and burn hazards associated with cryogenics. All other inquiries regarding hazardous chemicals shall be directed to EEOH"; added to 2.2.5- and as applicable, shelf life and degradation data. See Appendix A for examples of disposition guidelines of potentially unstable chemicals, In addition, subsequently train their employees if new chemicals are used and/or work task changes; 3.1.1 added by calling 544-2390 or 544-4246.; Changed 3.2 to read "The Centerwide chemical inventory is maintained by the EEOH via use of barcode labels applied at Central Receiving. To ensure that all incoming chemicals are barcoded and inventoried, personnel shall receive all chemicals thru MSFC Central Receiving at Bldg 4631, in accordance with MWI 8550.5, "Hazardous Materials Management."; added to 3.5.1, The Supervisor's training assessment tool is available for Line Managers on SSWP to help determine what training is needed/required for their employees.; Corrected 4.1 to read "Chemical inventory records shall be maintained by EEOH, retained for at least 5 years, then destroyed as necessary, in accordance with NASA Records Retention Schedule (NRRS) 8/43/A/1." Deleted 4.2.; Added Appendix A. This revision corrects NCR 698, 699, 702 & 708.</p>

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PREFACE

P.1 PURPOSE

To serve as the Marshall Space Flight Center (MSFC) Written Hazard Communication Program (HCP) in compliance with the Occupational Safety and Health Administration (OSHA) Standards.

P.2 APPLICABILITY

This Marshall Procedural Requirements (MPR) is intended for use by civil servants and contractors as the Written Hazard Communication Program (HCP) for operations on MSFC. If a contractor or other group on MSFC uses a different HCP, it shall be at least as stringent as this MPR.

P.3 AUTHORITY

- a. 29 CFR § 1910.1200, "Occupational Safety and Health Standards, Toxic and Hazardous Substances, Hazard Communication"
- b. 29 CFR § 1926.59, "Safety and Health Regulations for Construction, Occupational Health and Environmental Controls, Hazard Communication"

P.4 APPLICABLE DOCUMENTS

- a. MWI 5100.1, "Initiating Procurement Requisitions"
- b. MPR 8500.1, "MSFC Environmental Management Program"
- c. MWI 4520.1, "Receiving"
- d. MWI 5113.1, "Governmentwide Commercial Purchase Card Operating Procedure"
- e. MWI 8550.5, "Hazardous Materials Management"
- f. MWI 8715.4, "Personal Protective Equipment"
- g. MWI 8550.1, "Waste Management"
- h. MWI 8540.2, "Affirmative Procurement Program for Environmentally Preferable Products"

P.5 REFERENCES

None

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P.6 CANCELLATION

MPR 1840.2C dated October 28, 2004

*Original signed by
Robin N. Henderson for*

David A. King
Director

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DOCUMENT CONTENT

1. DEFINITIONS

1.1 Container. Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical.

1.2 Exposure (exposed). When an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, skin contact or absorption, etc.) and includes potential (e.g., accidental or possible) exposure.

1.3 Hazard Warning. Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which conveys the hazard(s) of the chemical(s) in the container(s).

1.4 Hazardous Chemical. Any chemical which is a physical hazard or a health hazard.

1.5 Health Hazard. A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term “health hazard” includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on hematopoietic system and agents which damage the lungs, skin, eyes, or mucous membranes.

1.6 Immediate Use. When the hazardous chemical is under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

1.7 Label. Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

1.8 Material Safety Data Sheet(s) (MSDS). Informational written or printed material, supplied by chemical manufacturers/importers, which provide pertinent safety and health information concerning a hazardous chemical.

1.9 MSDS Database. An electronic and a hard copy collection of Materials Safety Data Sheets for hazardous materials used at MSFC.

1.10 Physical Hazard. A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, or is unstable (reactive) or water-reactive.

1.11 Use. To package, handle, react, or transfer.

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1.12 Work Area. A room or defined space in a workplace where hazardous chemicals are produced or used and where employees are present.

1.13 Workplace. An establishment, job site, or project, at one geographical location containing one or more work areas.

2. RESPONSIBILITIES

2.1 Environmental Engineering and Occupational Health Office (EEOH) shall:

2.1.1 Implement and administer this HCP.

2.1.2 Maintain the MSDS database and distribute MSDS as required.

2.1.3 Establish and maintain a training curriculum that complies with section 3.5 of this MPR.

2.1.4 Verify compliance with MSFC HCP during surveys and audits.

2.1.5 Coordinate/update the annual Centerwide chemical inventory via a barcoding labeling system and in accordance with MWI 8550.5, "Hazardous Materials Management."

2.2 Directors/Managers/Team Leads/Supervisors shall:

2.2.1 Follow all procedures as stated in MWI 8550.5, "Hazardous Materials Management," for chemical management and purchases. Chemical containers from the manufacturer shall display a barcode, which is applied when the chemical is received at MSFC Central Receiving. If an original container is found without a barcode, the owner of the chemical shall call the environmental contractor at 544-6007 or 544-4772 to have the container bar coded and inventoried.

2.2.2 Ensure current revisions of applicable MSDS are readily accessible in each work area during each work shift to user employees.

2.2.3 Appropriately label all chemical containers in the work area. As a minimum the container shall have the chemical name as it appears on the manufacturer's MSDS and applicable hazard warnings. It is preferred the National Fire Protection Association (NFPA) or the Hazardous Material Identification System (HMIS) labeling system be used for transferred containers

2.2.4 Ensure all acquisitions of chemicals are performed in accordance with MWI 5100.1, "Initiating Procurement Requisitions," MWI 5113.1, "Governmentwide Commercial Purchase Card Operating Procedure," MWI 8540.2, "Affirmative Procurement Program for Environmentally Preferable Products," and MWI 8550.5, "Hazardous Materials Management."

2.2.5 Ensure employees using hazardous chemicals are provided hazard communication

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training, Safety, Health, and Environmental (SHE) training course 214, and are informed regarding the associated hazards, safe handling, use of the chemicals in their work area, and as applicable, shelf life and degradation data. See Appendix A for disposition requirements of potentially unstable chemicals. In addition, subsequently train their employees if new chemicals are used and/or work task changes.

2.2.6 Ensure written procedures are developed/exist on handling and/or continual use of chemicals that have exceeded the manufacturer's shelf life

2.2.7 Ensure all chemicals are dispositioned in accordance with MPR 8500.1, "MSFC Environmental Management Program."

2.2.8 Ensure chemicals are properly stored when not in use and that good housekeeping practices are maintained within the storage and chemical use areas.

2.2.9 Ensure appropriate personal protective equipment is provided to the employees who handle chemicals and that it is properly maintained in accordance with MWI 8715.4, "Personal Protective Equipment."

2.2.10 Ensure employees are trained in the correct use and limitations of the personal protective equipment assigned, in accordance with MWI 8715.4, "Personal Protective Equipment."

2.2.11 Ensure chemicals in glass containers, particularly strong acids and bases, are placed in shatterproof containers when practical. Chemicals purchased in shatterproof-coated containers provided by the manufacturer are acceptable.

2.3 Director, Safety and Mission Assurance Directorate, shall provide safety guidance to employees with regards to the fire hazards associated with flammable materials and substances, pressure hazards associated with compressed gases and burn hazards associated with cryogenics. All other inquiries regarding hazardous chemicals shall be directed to EEOH.

2.4 Contracting Officers shall ensure this HCP, or a HCP that is at least as stringent, is incorporated into contracts governing all operations at MSFC and component installations so that actions may be taken that are consistent with the intent and provisions of this MPR.

3. PROCEDURE

3.1 Employee Access

3.1.1 All personnel at MSFC shall be provided access to this MPR ("MSFC Hazard Communication Program"); 29 CFR 1910.1200, "OSHA Hazard Communication Standard," and MSDS. Copies are available electronically to employees or their representatives. For those employees not having electronic access, copies shall be provided to employees by EEOH upon request by calling 544-2390 or 544-4246.

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3.1.2 Directors, managers, team leads, supervisors, and employees shall ensure current revisions of applicable MSDSs are readily accessible in each work area during each work shift to user employees. Hard copies may be placed in each applicable area.

3.2 Inventory

The Centerwide chemical inventory is maintained by the EEOH via use of barcode labels applied at Central Receiving. To ensure that all incoming chemicals are bar coded and inventoried, personnel shall receive all chemicals thru MSFC Central Receiving at Bldg 4631, in accordance with MWI 8550.5, "Hazardous Materials Management."

3.3 MSDS

3.3.1 MSDS shall be provided with all chemicals received, formulated, or brought onsite at MSFC. The MSDS shall be written in accordance with 29 CFR 1910.1200. A copy of all MSDS shall be forwarded to EEOH by anyone formulating/receiving/purchasing new chemicals or chemical mixtures.

3.3.2 The Center shall return to the supplier any chemical received if an MSDS is unavailable for the material in accordance with MWI 4520.1, "Receiving."

3.4 Labeling

3.4.1 All chemical containers (excluding small transfer containers for an employee's own immediate use) shall be labeled or tagged, in accordance with 29 CFR 1910.1200. Small transfer containers shall be properly cleaned and labeled if usage is required beyond one day. As a minimum, the label shall identify the chemical as it appears on the MSDS and contain appropriate hazard warnings. It is preferred that the NFPA or the HMIS labeling system be used on transfer containers.

3.5 Training

3.5.1 Employees shall be provided training (reference: 29 CFR 1910.1200(h)) relative to the potential dangers of the hazardous chemicals used in their work areas). Each employee involved in the use and handling of chemical agents or potentially exposed thereto shall receive general orientation training, SHE 214, "Hazard Communication," and specific training on the hazardous chemicals found in their work areas provided by their supervisor. Supervisors of these employees shall attend, SHE 215, "Hazard Communication for Supervisors," as appropriate. Additional training shall be provided as new information becomes available on a specific agent, when special precautions are needed due to the introduction of new chemicals into the work area, when a new employee is assigned to an applicable area, and when a change in chemical usage or chemical work practices occurs. Line management shall ensure their employees are informed of the hazards of the chemicals within their work area. The Supervisor's training assessment tool is

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available for Line Managers on the Supervisor's Safety Web page (SSWP) to help determine what training is needed/required for their employees. EEOH shall make available general orientation and supervisory training courses periodically and make them available for registration through SHE Training Web page.

3.6 Non-Routine Tasks

3.6.1 In the event that work is to be performed where chemical hazards are either unknown or not familiar (example: non-routine tasks or unlabeled pipes), the supervisor shall determine the hazards and review those hazards with the worker(s) before work is performed. The supervisor shall contact EEOH for assistance in hazard determination if needed.

3.7 Multi-Employer Workplace

3.7.1 MSFC is a multi-employer worksite that is comprised of civil service employees, onsite contractors, offsite contractors, and subcontractors. The hazards posed by one employer shall be communicated to all affected employer/employees by signs, barriers, lights, verbal communication, or some other means. EEOH shall be available for consultation or guidance to all MSFC employees.

4. RECORDS

4.1 Chemical inventory records shall be maintained by EEOH, retained for at least 5 years, then destroyed as necessary, in accordance with NASA Records Retention Schedule (NRRS) 8/43/A/1.

4.2 MSFC employee occupational health training records shall be maintained by the Office of Human Capital for 30 years past termination then destroyed in accordance with NRRS 3/33/G/2.

4.3 An electronic database shall be maintained by EEOH, for all current MSDSs in use at MSFC. When updated MSDS information is received, existing MSDS shall be replaced and archived. All superseded MSDS information shall be available upon request to EEOH.

5. FLOW DIAGRAM

None

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Appendix A

Shelf Life of Unstable Chemicals

The following table includes disposition requirements of potentially unstable chemicals (PUC). This list is **not inclusive** of all PUC at MSFC. If other chemicals are identified contact EEOH for an amendment to this table

Group A- Chemicals that form explosive levels of peroxides without concentration **Discard After Three (3) Months from Purchase date**

Butadiene ^(1,3)	Sodium Amide
Chloroprene (2-chloro-1,3-butadiene) ^(1,3)	Tetrafluoroethylene
Divinyl acetylene	Vinyl ether
Isopropyl ether	Vinylidene chloride
Potassium Metal	

Group B-Chemicals that form explosive levels of peroxides on concentration **Discard After One (1) Year from Purchase date**

Acetal	4-Heptanol
Acetaldehyde	2-Hexanol
Benzyl alcohol	Hydrogen Peroxide (30-50%)
2-Butanol	Isopropyl benzene
Cyclohexanol	Methyl acetylene
Cyclohexene	3-Methyl-1-butanol
2-Cyclohexen-1-ol	Methyl cyclopentane
Cyclopentene	Methyl isobutyl ketone
Decahydronaphthalene	4-Methyl-2-pentanol
Diacetylene	2-Pentanol
Dicyclopentadiene	4-Penten-1-ol
Diethylene glycol dimethyl ether	1-Phenylethanol
Dioxane	2-Phenylethanol
Ethylene glycol dimethyl ether	Tetrahydrofuran
Ethyl ether	Tetrahydronaphthalene
Furan	

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Group C- Chemicals which may autopolymerize as a result of peroxide accumulation
Discard Inhibited Chemicals After One (1) Year from Purchase date; Discard uninhibited
chemicals 24 hours after opening or One (1) Year from Purchase date whichever comes
first

Acrylic acid ⁽²⁾	Styrene
Acrylonitrile ⁽²⁾	Tetrafluoroethylene
Butadiene ^(1,3)	Vinyl acetate
Buten-3-yne	Vinyl chloride
Chloroprene ^(1,3)	Vinylidene chloride
Chlorotrifluoroethylene	2-Vinyl pyridine

Other materials that may become unstable and shall be discarded after One (1) Year from Purchase date

Sodium metal	Picric Acid
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Notes for Appendix A:

1. When stored as a liquid monomer.
2. Although these form peroxides, no explosions involving these monomers have been reported.
3. Also stored as a gas in gas cylinders.